EQUIPMENT MODIFICATION
PERMIT TO OPERATE ANALYSIS

FACILITY MAILING ADDRESS

MCP Foods, Inc.
424-425 Atchison Street
Anaheim, CA 92805

(ID: 002825 NOx RECLAIM Cycle 1 - Title V)

EQUIPMENT LOCATION

SAME

EQUIPMENT DESCRIPTION

APPLICATION NO. 516269 EQUIMENT MODIFICATION
PROCESS 2: STORAGE TANKS

SPENT IPA STORAGE SYSTEM CONSISTING OF:

1. TWO SETTLING TANKS (TOTES), 550 GALLONS EACH.
2. STORAGE TANK, D5, UNDERGROUND, 9'-6" DIA X 19'-11" L, 10,000 GALLON CAPACITY WITH A NITROGEN BLANKET.

APPLICATION NO. 516272 PROCESS MODIFICATION
PROCESS 3: AIR POLLUTION CONTROL
SYSTEM 1: AIR POLLUTION CONTROL SYSTEM

C29 AFTERBURNER, CATALYTIC, CATALYTIC PRODUCTS INTERNATIONAL, MODEL VECTOR-30, 5,000,000 BTU PER HOUR, NATURAL GAS FIRED AND A 150 HP EXHAUST BLOWER VENTING 13 TANKS AND 43 ROTARY DRYERS THROUGH DUST COLLECTOR, C30.

APPLICATION NO. 516270 FACILITY PERMIT MODIFICATION

HISTORY

Application Nos. 516269 and 516270 were filed on November 16, 2010, for a Class I Equipment Modification. Application No. 516270 was filed on November 16, 2010, for a RECLAIM facility permit modification.

The following compliance activity was found in District records (CLASS computer database) for the past 2 years.

Complaints:
213545, 11/5/10, for a very pungent odor.
Faint strawberry-like odor was detected from the facility when inspected that morning, though not determined to be a nuisance.

Notices to Comply:
D28651, 4/9/10 to 1) Submit the Semi-Annual Monitoring Report by the required due date and 2) Submit the Annual Compliance Certification by the required due date.

Notices of Violation:
P51879, 2/25/10 for Failure to perform the source test for spray dryer, Device ID D23 by the compliance due date, 12/31/09.

FACILITY DESCRIPTION

MCP Foods is a flavoring manufacturing facility that primarily produces flavors used in the beverage, sweet goods, diary, oral care and nutrition products industries. The flavorings are produced in one of ten flavoring manufacturing lines which are supported by a boiler, process vessels, solvent storage tanks, food dryers, and packaging equipment along with associated control equipment.

PROCESS DESCRIPTION

The above tank stores spent isopropyl alcohol that also contains about 3% water and a trace amount of various flavor oils. MCP Foods refers to this product as “Flavored IPA”. The Flavored IPA is the remaining IPA from the recirculation tanks of the food flavorant production lines once flavorant batches are completed. This spent solution is not reusable for subsequent production due to the presence of residual flavor oils that cause the spent solution to not meet product specifications. The spent liquid is first sent to two intermediate bulk containers, this step allows solids to settle to prevent solids from forming in the main tank. Nitrogen is charged into the tank to occupy vapor space to inhibit IPA emissions.

Currently the tank is vented to a refrigerated condenser, device ID C204. MCP Foods would like to decommission the condenser and route the tank exhaust to the existing catalytic oxidizer, device ID C29. MCP Foods would also like to increase the monthly throughput of the tank from 68,000 gallons to 100,000 gallons. The maximum daily throughput is to remain at the current 10,000 gallons.

EVALUATION

Operating Schedule – 8 hours to fill the tank
1 fill per day, 10,000 gallons
100,000 per month (Increase of 32,000 gallons)
Catalytic Afterburner Efficiency – 96.9% (Overall per District evaluation of 2005 source test.
Breathing loss assumed to be negligible for an underground tank with a nitrogen blanket. Only working loss will be calculated and entered.

$$E_{working\ loss} = \frac{2.4 \times (\text{fill rate})(\text{pressure, psi})(\text{molecular weight})}{100{,}000}$$

$$E_{working\ loss} = \frac{2.4 \times (10{,}000\ \text{gal/day})(0.7\ \text{lb/in}^2)(60\ \text{lb/lb mol})}{100{,}000}$$

= 10.08 lb/day ➔ 1.26 lb/hr for an 8 hr fill

$$E_{working\ loss} = \frac{2.4 \times (100{,}000\ \text{gal/mo})(0.7\ \text{lb/in}^2)(60\ \text{lb/lb mol})}{100{,}000}$$

=100.8 lb/mo

R1 = 1.26 lb/hr ➔ 10.08 lb/day
R2 = 0.03906 lb/hr ➔ 0.31248 lb/day
30Day Average = 0.10416 lb/day

Catalytic Afterburner-Combustion Emissions

Operating Schedule – 24 hrs/day, 7 days/wk, 52 weeks/year (Maximum)
Heat rating – 5.0 MMBTU/hr
NOx emissions – 30 ppmv @ 3% O_2
- HC, SOx, CO and PM emissions from the 2006-2007 AER Program
- PM_{10} = 1.0 PM, based on 1/30/92, Fred Del Rosario memo.

See attached sheet for criteria pollutant emission calculations.

RULES COMPLIANCE

RULE 212: Public Notification
Paragraph 212 (c)(1) Requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. Using to the website geodistance.com the closest schools, Abraham Lincoln Elementary and Thomas Jefferson

Elementary are beyond a 1000 feet from MCP's property line. A 30-Day Public Notice is not required under this paragraph.

Paragraph 212(c)(2) The equipment will not result in on-site emission increase exceeding the daily maximums as specified in the table in Rule 212(g). Therefore, a 30-day public notice period will not be required under this paragraph.

Paragraph 212(c)(3) Public notice will not be required under this paragraph. See Rule 1401 evaluation section.

RULE 401: Compliance is expected. Visible emissions are not expected from proper operation of this equipment. There have been no visible emission violations or complaints credited to this facility.

RULE 402: Compliance is expected. Nuisance is not expected if equipment is properly operated and maintained. There have been no violations credited to this facility.

RULE 1131: Continued compliance is expected. October 19, 2005, source test found control device to have an overall efficiency of 96.9%. Rule requires 90% capture and 95% destruction efficiencies (85.5% overall).

REG XIII/XX: **BACT** BACT for the Underground Storage Tank is an overall system efficiency $\geq$ 95%. The catalytic afterburner was determined to have an overall efficiency of 96.9%.

Modeling is not required. The current applications only affect VOC emissions.

Offsets Rule 1303 (b)(2) specifies that and applicant must provide emission reduction credits (ERCs) at an offset ratio of 1.2:1.0 of the emission increase. Rule 1306(d) specifies that a new equipment requiring a permit, emissions are calculated per 1306(b). Rule 1306(b) states than emission increases are to be calculated using calendar monthly emissions divided by 30 and on a pound per day basis from permit conditions limiting emissions.

MCP is above the exemption threshold limit for VOC, however the 30 Day Average emission 0.1 does not require ERCs to be purchased.

Rule 1401 IPA emissions are below the screening level at 25 meters for both Chronic and Acute Health Risks.

REG XXX This is a de minimus significant permit revision; a 45-day EPA review is required.

RECOMMENDATION

Issue the Permit to Operate for the Spent IPA Storage Tank (A/N 516269) and Catalytic Afterburner (A/N 516272) as described in the facility permit and this report.